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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/623,617	07/22/2003	Yves Fouillet	116636	5047
25944	7590	06/27/2006		
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			EXAMINER GORDON, BRIAN R	
			ART UNIT	PAPER NUMBER
			1743	

DATE MAILED: 06/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/623,617

Applicant(s)

FOUILLET ET AL.

Examiner

Brian R. Gordon

Art Unit

1743

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date =
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claims 1-15 rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for mixing droplets deposited within a viscous liquid on an electrically insulation layer, does not reasonably provide enablement for mixing occurring when the viscous liquid and first drop are simply placed on the insulation layer and the second drop is only held above the first drop. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims. In order for the device to function as described the first drop must be deposited in the viscous liquid and subsequently the second drop must be brought in contact with the first drop within the viscous liquid for mixing to occur thereby preventing evaporation and contamination.

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claim 1 it is unclear as to what elements applicant intend to be included within the claimed structure of the invention. Does applicant intend for the liquid which forms first, second droplets, and viscous liquid to be considered as required elements of the device. The preamble of the claim recites device for injection and mixing liquid droplets. As such it is unclear if the recited "means for mixing" as a specified element or

combination thereof. A means for mixing is not found defined within the specification being comprised of some specified elements. From reading the specification, it appears as if the entire device is a means for mixing. Applicant hereby invited to provide a clear explanation as to what element(s) define the means for mixing and what is the difference from said means and the entire device. The claim further states “....analysis support, **device wherein** a viscous liquid in which the first and second drops are not miscible....” It is unclear as what device applicant is referencing. Is this in reference to the overall device, analysis support, or some other element? As such it is further unclear what device is being referenced by the phrase “the device” throughout the claim. The claim further recites, “at least one injector designed to form, at an outlet orifice, the second drop above the first drop...” This phrase is directed to an intended use or function of the injector. Does applicant intend for the function to be considered as a further limiting structural limitation? A functional recitation must be expressed as a “means” for performing the specified function, as set forth in 35 USC 112, 6th paragraph, and must be supported by recitation in the claim of sufficient structure to warrant the presence of the functional language. Furthermore, it is unclear if the recited outlet orifice is an element of the invention and what element orifice is included within. As presently drafted to claim allows for the injector form a droplet at an orifice of any other object. While it appears the claim is directed functional and intended use limitations which would be more appropriate in a method claim, the examiner suggests amending the claim to read as follow to clarify the apparatus.

1. A device for injection and mixing of respective, first and second liquid reagent droplets, comprising:

an analysis support including an electrically insulating layer;

a viscous liquid deposited on the electrically insulation layer, wherein said viscous liquid is immiscible with said reagent droplets;

a first drop of a first reagent deposited on said electrically insulating layer within said viscous liquid;

an injector means including said second liquid reagent and an outlet orifice, said injector means for forming a second drop of said second liquid reagent above the first drop and depositing the second drop in contact with the first drop to be mixed therewith;

means for mixing said second drop with first drop deposited on said electrically insulating layer (only if the means is clearly defined by applicant as requested above);

a first electrode arranged underneath said first drop and said electrically insulating layer;

a second electrode arranged on said injector near the outlet orifice of the injector;
and

a control means for applying and controlling a voltage applied between said first and second electrodes.

Claim 5 recites the limitation "at its free end" in line 1. There is insufficient antecedent basis for this limitation in the claim. It appears if it should read, "the injector comprises a free end further including a capillary tube connected to a volumetric pump."

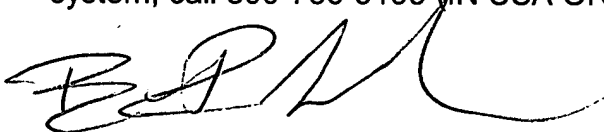
Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Shvets, Igor et al.; Ng, Kin Chiu; Morozov; Victor et al.; Shvets; Igor et al.; Ohkawa; Tihiro; Chow; Andrea W. et al.; Brock, Ansgar et al.; Wolk, Jeffrey A. et al.; Williams, Roger O. et al.; and Brock; Ansgar et al. disclose injectors with multiple electrodes for deposition of droplets substrates. While the devices of the prior art are relatively close to the structure as that suggested claim above, the prior art does disclose nor fairly suggest all the limitations of the suggested claims. As such in the event applicant chooses to adopt the suggested claim language, the claims would be allowable over the prior art of record.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian R. Gordon whose telephone number is 571-272-1258. The examiner can normally be reached on M-F, with 2nd and 4th F off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on 571-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to be 'BPA' followed by a long, sweeping horizontal stroke.

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